



INTEGRATED CIRCUIT

The AWM1272 is a monolithic integrated circuit, intended for use as a 1st I.F. amplifier and oscillator-mixer in radio receivers.

This amplifier is an internally diode-biased grounded emitter cascode amplifier which drives a balanced mixer. The mixer is fed from a duplex Clapp crystal oscillator. Either of two closely spaced channels can be selected by simple dc switching of the control points to ground.

The input and output impedances have been chosen to match typical 10.7 MHz and 455 KHz ceramic filters respectively.

This unit is recommended for use with the AWM1306 amplifier-discriminator.

GENERAL CHARACTERISTICS

Package	12 pin T0.5
Supply Voltage	4.5 to 12 volts
Supply Current	1.4mA at 6V
Crystal Oscillator Stability	± 100 Hz, 0°C to 70°C typ.
Nett Gain, (10.7 MHz in, to 455 KHz out)	26 dB
Input Impedance	330 ohms (nominal)
Output Impedance	1000 ohms (nominal)
Maximum Storage Temperature	150°C
Operating Temperature Range	0 to 70°C

AWM 1272

LOW POWER AMPLIFIER OSCILLATOR-MIXER



12 lead T0.5 Package.
Details on page 4.

APPLICATIONS

- Mobile telephones.
- Broadcast receivers.
- Radio control systems.
- Frequency conversion.
- Amateur radio.

FEATURES

- Low power consumption.
- Functions up to 70 MHz
- Conversion stage for AWM1306 demodulator.
- Functions as a 1st or 2nd oscillator-mixer.

AWM1272 LOW POWER AMPLIFIER OSCILLATOR-MIXER

Designed and Manufactured in Australia by —

AMALGAMATED WIRELESS (AUSTRALASIA) LTD.

348 Victoria Road Rydalmere N.S.W. Australia.

Postal Address — A.W.V. Private Mail Bag Rydalmere, 2116

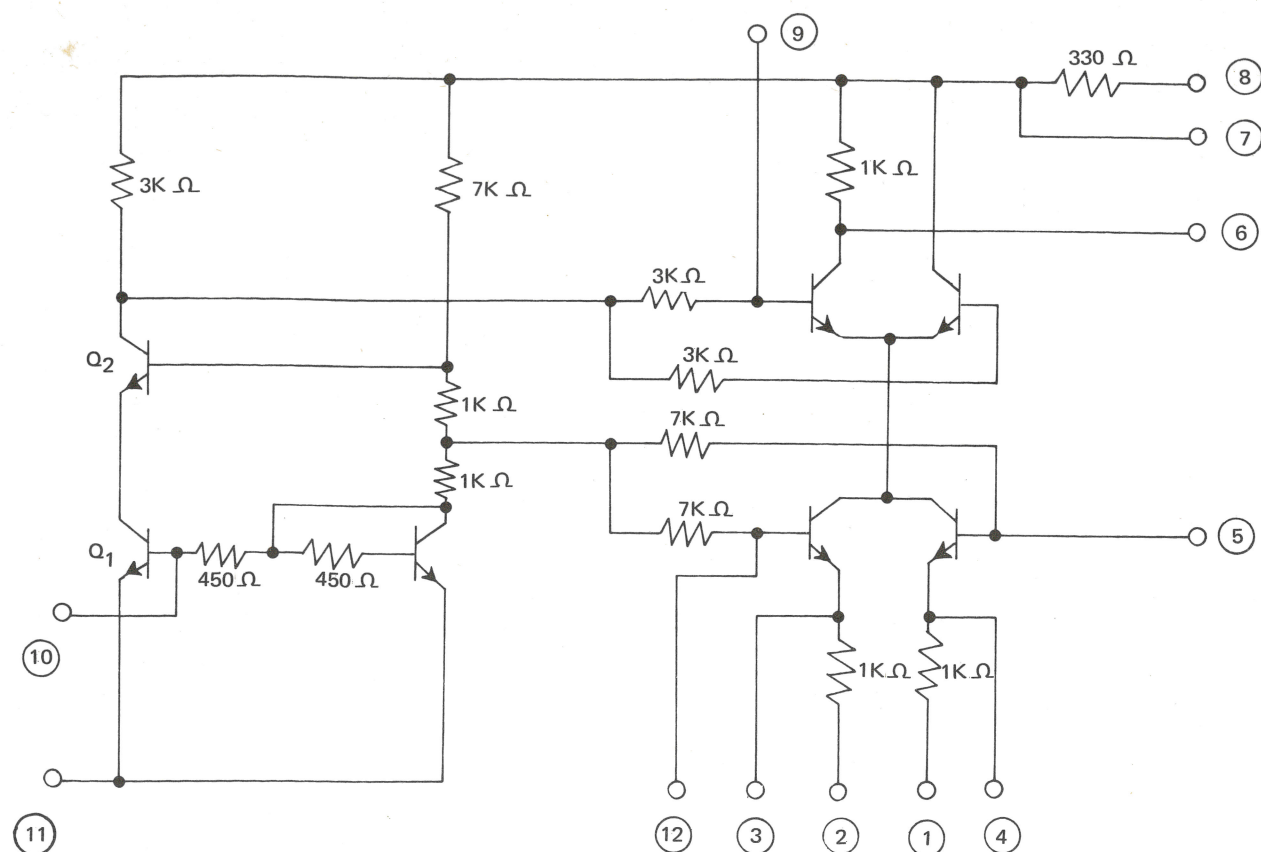
Telegrams "Valves" Ermington, Telephone 638 0411

AWM 1272

Issue 2-71

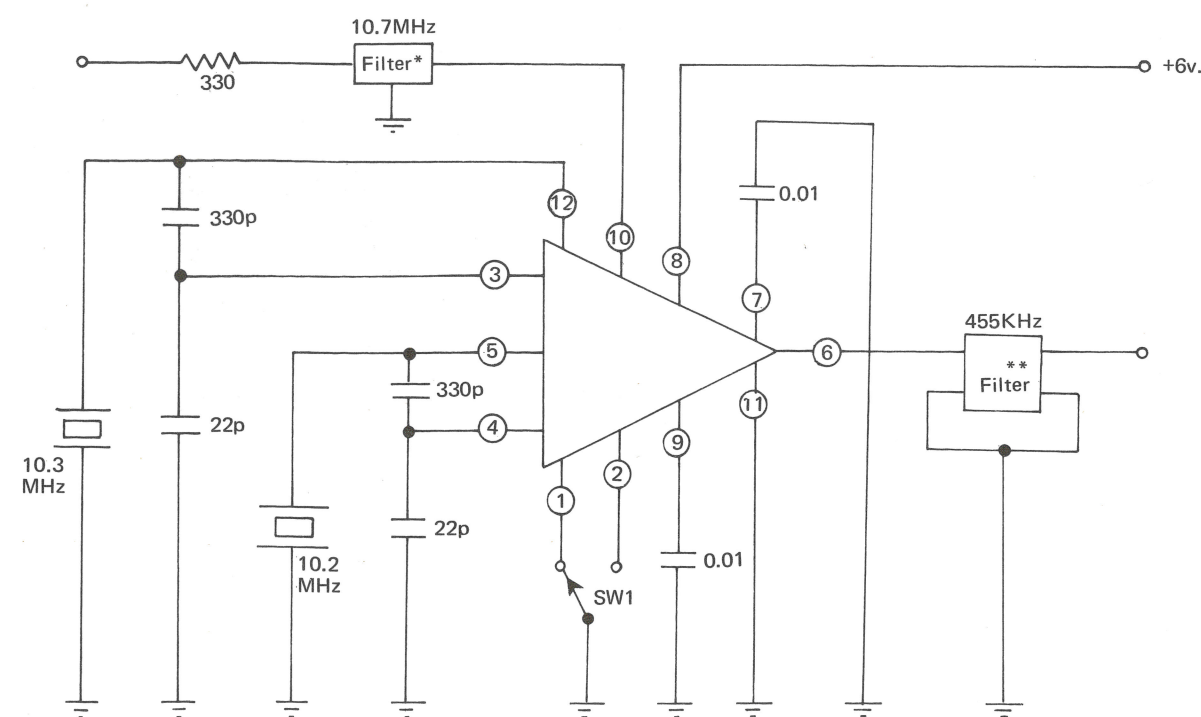
Supersedes Issue —

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The resistance values shown in the circuit are nominal only.

Figure 1. AWM1272 Schematic circuit diagram

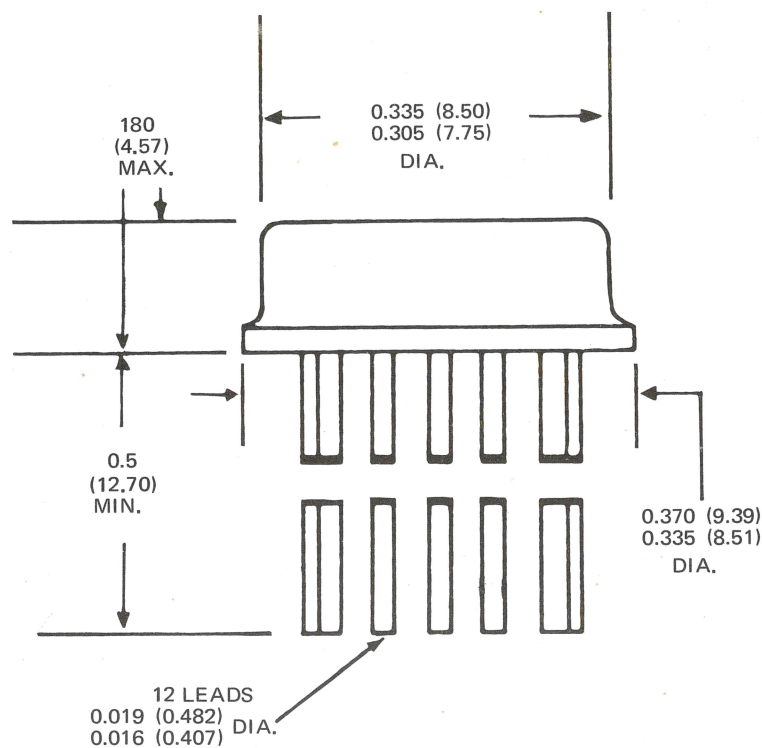


* eg. MURATA TYPE SF-10.7MA.
 ** eg. MURATA TYPE CFP-455.

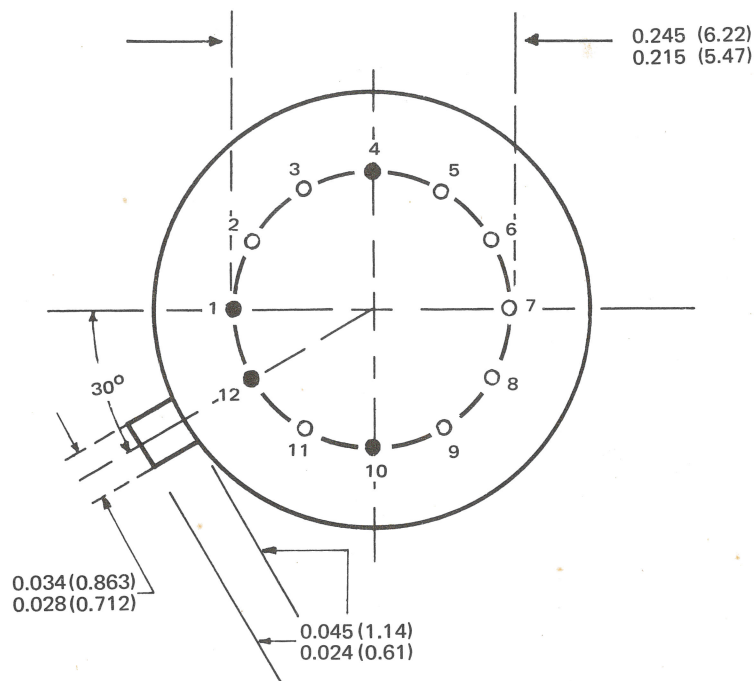
Figure 2. Oscillator-Mixer test set up circuit.

STATIC AND DYNAMIC ELECTRICAL CHARACTERISTICS

PIN	FUNCTION	PARAMETER (TA = 25°C)	CONDITIONS	VALUE			UNITS
				Min.	Typ.	Max.	
1	A osc ground return	Current	Grounded alternating with Pin 2	0.28	0.4	0.52	mA
2	B osc ground return	Current	Grounded alternating with Pin 1	0.28	0.4	0.52	mA
3	Osc B emitter feedback	D.C. Level	VCC = 6 V	0.37	0.48	0.6	V
4	Osc A emitter feedback	D.C. Level	VCC = 6 V	0.37	0.48	0.6	V
5	A osc base	D.C. Level	VCC = 6 V	1.0	1.2	1.4	V
6	R.F. output	D.C. Level R.F. Conversion gain Input Frequency	VCC = 6 V f = 10.7 MHz	4.8 20	5.3 22 10.7	5.7 70	V dB MHz
7	VCC bypass	D.C. Level	VCC = 6 V	5.4	5.6	5.8	V
8	VCC supply	Current	VCC = 6 V	1.1	1.4	1.8	mA
9	Mixer bypass	D.C. Level	VCC = 6 V	3.5	4.0	7.5	V
10	Input	D.C. Level R.F. Input Amplitude for limiting	VCC = 6 V	.6	.7 500	.75	V μV
11	Ground						
12	B osc base	D.C. Level	VCC = 6 V	1.0	1.2	1.7	V



1. A osc ground return
2. B osc ground return
3. B osc emitter
4. A osc emitter
5. A osc base
6. Output
7. VCC Bypass
8. VCC Supply
9. Mixer bypass
10. Input
11. Ground
12. B osc base



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